

**UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

ECOFACITOR, INC.,

Plaintiff,

v.

JOHNSON CONTROLS INTERNATIONAL,  
PLC

Defendant.

Case No. 6:21-cv-00244

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT AGAINST  
JOHNSON CONTROLS INTERNATIONAL, PLC**

This is an action for patent infringement arising under the Patent Laws of the United States of America, 35 U.S.C. § 1 *et seq.*, in which Plaintiff EcoFactor, Inc. (“Plaintiff” or “EcoFactor”) makes the following allegations against Defendant Johnson Controls International, PLC (“Defendant”):

**INTRODUCTION**

1. This complaint arises from Defendant’s unlawful infringement of the following United States patents owned by EcoFactor, each of which generally relate to smart thermostat systems, smart HVAC systems, and smart HVAC control systems technology: United States Patent Nos. 8,423,322 (“322 patent”); 8,019,567 (“567 patent”); 10,612,983 (“983 patent”); and 8,886,488 (“488 patent”) (collectively, the “Asserted Patents”) (collectively, the “Asserted Patents”). EcoFactor owns all right, title, and interest in each of the Asserted Patents.

2. EcoFactor is a privately held company, having its principal place of business at 441 California Avenue, Number 2, Palo Alto, CA 94301. EcoFactor was founded in 2006 and is

headquartered in Palo Alto, California. EcoFactor is a leader in smart home energy management services. EcoFactor delivers smart home energy management services that improve energy efficiency, reduce energy bills and vastly increase demand response efficacy – all while maintaining consumer comfort. EcoFactor’s patented big-data analytics and machine learning algorithms collect and process massive amounts of residential data – including home thermodynamics, family comfort preferences and schedules, plus external data such as weather – to continually monitor, adapt and learn for optimum energy savings. The company provides homeowners significant cost savings and energy usage benefits. EcoFactor’s award-winning service has been offered through channel partners such as utilities, energy retailers, broadband service providers and HVAC companies.

3. EcoFactor transformed how homes use energy by applying advanced analytics to connected devices in the home. EcoFactor developed a suite of software known as the “EcoFactor Platform” that incorporates EcoFactor’s patented data analytics and machine learning algorithms, as well as EcoFactor’s award-winning smart HVAC control technologies. The EcoFactor Platform is software that runs on servers, including cloud servers, in the United States, and provides service to customers in the United States. The source code of the EcoFactor Platform, including for example the platform, quant, and mobile application source code, that comprises the EcoFactor Platform was designed by, created by, and is continuously maintained and improved by EcoFactor employees working in the United States. The EcoFactor Platform actively manages thermostats on occupants’ behalf in intelligent ways that improve comfort while helping them save time, energy and money. Utilities, home service providers and homeowners rely on EcoFactor for demand response, energy efficiency, and HVAC performance monitoring services. The EcoFactor Platform includes the software that practices EcoFactor’s patents on these features. For example,

the EcoFactor Platform includes EcoFactor's patented techniques for monitoring the health and performance of HVAC systems over time, smart thermostat scheduling to improve energy savings and optimize comfort for occupants, and thermodynamic modeling of the user's home and HVAC system to enable dynamic pre-cooling and pre-heating to further improve comfort, save energy, or both, by creating comfortable schedules that also shift energy usage out of periods of peak energy demand.

4. The patented innovations at issue in this action were invented by EcoFactor engineers and researchers. EcoFactor has played a significant role in the development and advancement of such improvements to energy management technology—and the domestic market for them. EcoFactor has expended tens of millions of dollars of research and development and technical services and support in the United States. In recent years, an explosion of imported products that infringe EcoFactor's innovative Asserted Patents has significantly eroded EcoFactor's market standing. This infringement action is about several patented improvements to smart thermostat systems, smart HVAC systems, and smart HVAC control systems—which took years of research and millions of dollars in U.S. investments to develop, and which are infringed by Defendant's accused products.

### **PARTIES**

5. Plaintiff EcoFactor is a privately held company, having its principal place of business at 441 California Avenue, Number 2, Palo Alto, CA 94301. EcoFactor was founded in 2006 and is headquartered in Palo Alto, California. EcoFactor is the sole owner of all right, title, and interest in each Asserted Patent.

6. On information and belief, Defendant Johnson Controls International, PLC is an Irish company with principal place of business at One Albert Quay, Cork, Ireland, T12 X8N6.

Defendant designs and manufactures and/or has manufactured on its behalf abroad the Accused Products that are then sold for importation into the United States, imported into the United States, and/or sold, offered for sale, and/or used within the United States after importation.

### **JURISDICTION AND VENUE**

7. This action arises under the patent laws of the United States, Title 35 of the United States Code. This Court has original subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has personal jurisdiction over Defendant in this action because Defendant has committed acts within this District giving rise to this action, and has established minimum contacts with this forum such that the exercise of jurisdiction over Defendant would not offend traditional notions of fair play and substantial justice. Defendant, directly and through subsidiaries or intermediaries, has committed and continue to commit acts of infringement in this District by, among other things, importing, offering to sell, and selling products that infringe the asserted patents.

9. Venue is proper in this District. Venue is proper as to a foreign defendant in any district. 28 U.S.C. § 1391(c)(3); *In re HTC Corp.*, 889 F.3d 1349 (Fed. Cir. 2018). Defendant is a foreign corporation organized under the laws of Ireland, with a principal place of business in Cork, Ireland.

### **THE TECHNOLOGY AND PRODUCTS AT ISSUE**

10. The products accused of infringing one or more of the Asserted Patents are smart thermostat systems, smart HVAC systems, smart HVAC control systems, and all components (including accessories) thereof offered for sale by Defendant.

11. The Accused Products include thermostat systems that connect to and control an

HVAC system, they include smart HVAC systems, and they include components of such systems such as, for example, hubs, panels, and remote sensors. These thermostat devices communicate over a network with other devices and systems offered by the Defendant. The Accused Products connect to the network managed by the Defendant via the Internet. For example, the Accused Products connect to Defendant's networked servers and data centers, online interfaces, and related accessories.

12. When connected as designed, the Accused Products form a smart thermostat system, smart HVAC system, and/or smart HVAC control system. Defendant's smart thermostat systems are "smart" because they are designed to connect to Defendant's servers and data centers (including, e.g., cloud-based servers and backend support), related online interfaces (including, e.g., mobile apps and web portals), and related accessories (e.g., remote temperature sensors), upon importation in the United States. Further, Defendant's smart thermostat systems are "smart" because they support and are marketed as providing features to end users that analyze thermostat and HVAC system data gathered by the smart thermostat systems.

13. The Accused Products constitute the "frontend" of the smart thermostat system, smart HVAC system, and/or smart HVAC control system. Such smart thermostat devices can be programmed using the servers and the network maintained by Defendant and which form the "backend" for the smart thermostat. Such smart thermostat systems can be programmed remotely with a web or mobile application offered by Defendant. The web or mobile application communicates with the smart thermostat via computer servers or data centers managed by the Defendant, who sells and imports the smart thermostat. Each Defendant allows an end user to use a web or mobile application on a mobile phone, tablet, laptop, or other computing device to control the smart thermostat systems, such as by adjusting temperature settings. Defendant's smart

thermostat systems also communicate data using the network. For example, Defendant's smart thermostat systems send and receive temperature data and/or temperature settings using the network.

14. Defendant's Accused Products are designed and specially made and adapted to infringe claims of the Asserted Patents and to embody a material part of the claimed inventions. The Accused Products are installed and used in the United States according to Defendant's design and instructions. Defendant has knowledge as well as notice of its infringement of each asserted patent at least as of the date of this complaint. Defendant knowingly induces and encourages the use of the Accused Products in the United States in a manner that infringes the asserted claims of the Asserted Patents. Defendant infringes the Asserted Patents directly, through making, using, selling, and/or offering for sale the Accused Products. Defendant also infringes the Asserted Patents indirectly, both for example through contributory infringement as well as through induced infringement. The infringement of the Asserted Patents is also attributable to Defendant. Defendant and/or users of the Accused Products directs and controls use of the Accused Products to perform acts that result in infringement the Asserted Patents, conditioning benefits on participation in the infringement and establishing the timing and manner of the infringement.

## **COUNT I**

### **INFRINGEMENT OF U.S. PATENT NO. 8,423,322**

15. EcoFactor realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

16. EcoFactor owns all rights, title, and interest in U.S. Patent No. 8,423,322, titled "system and method for evaluating changes in the efficiency of an HVAC system," issued on April 16, 2013. Ex. 1 ('322 patent). Inventors of the '322 patent are John Douglas Steinberg and Scott

Douglas Hublou. The '322 patent is based on U.S. Pat. App. No. 13/230,610 filed on Sept. 12, 2011, which is a continuation of App. No. 12/211,690 filed on Sept. 16, 2008. The '322 patent also claims priority to Provisional App. No. 60/994,011, filed on Sept. 17, 2007. A true and correct copy of the '322 Patent is attached as Exhibit 1.

17. On information and belief, Defendant makes, uses, offers for sale, sells, and/or imports certain products ("Accused Products"), such as Johnson's smart thermostats (e.g., TEC3000, T9100/T9180), that directly infringe, literally and/or under the doctrine of equivalents, claims of the '322 Patent.

18. The infringement of the Asserted Patents is also attributable to Defendant. Defendant and/or users of the Accused Products directs and controls use of the Accused Products to perform acts that result in infringement the Asserted Patents, conditioning benefits on participation in the infringement and establishing the timing and manner of the infringement.

19. Defendant also knowingly and intentionally induces infringement of claims of the '322 Patent in violation of 35 U.S.C. § 271(b). Through the filing and service of this Complaint, and also through the filing and/or service of a complaint with the United States International Trade Commission (ITC) pursuant to Section 337 of the Tariff Act of 1930, 19 U.S.C. § 1337, Defendant has had knowledge of the '322 Patent and the infringing nature of the Accused Products. Despite this knowledge of the '322 Patent, Defendant continues to actively encourage and instruct its customers and end users (for example, through user manuals and online instruction materials on its website) to use the Accused Products in ways that directly infringe the '322 Patent. Defendant does so knowing and intending that its customers and end users will commit these infringing acts. Defendant also continues to make, use, offer for sale, sell, and/or import the Accused Products, despite its knowledge of the '322 Patent, thereby specifically intending for and inducing its

customers to infringe the '322 Patent through the customers' normal and customary use of the Accused Products.

20. Defendant has also infringed, and continue to infringe, claims of the '322 patent by offering to commercially distribute, commercially distributing, making, and/or importing the Accused Products, which are used in practicing the process, or using the systems, of the patent, and constitute a material part of the invention. Defendant knows the components in the Accused Products to be especially made or especially adapted for use in infringement of the patent, not a staple article, and not a commodity of commerce suitable for substantial noninfringing use. Accordingly, Defendant has been, and currently are, contributorily infringing the '322 patent, in violation of 35 U.S.C. § 271(c).

21. The Accused Products satisfy all claim limitations of claims of the '322 Patent. A claim charts comparing independent claims of the '322 Patent to representative Accused Product, is attached as Exhibit 2.

22. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendant has injured EcoFactor and are liable for infringement of the '322 Patent pursuant to 35 U.S.C. § 271.

23. As a result of Defendant's infringement of the '322 Patent, EcoFactor is entitled to monetary damages in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendant, together with interest and costs as fixed by the Court.

24. Defendant's infringing activities have injured and will continue to injure EcoFactor, unless and until this Court enters an injunction prohibiting further infringement of the '322 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that



come within the scope of the patent claims.

**COUNT II**

**INFRINGEMENT OF U.S. PATENT NO. 8,019,567**

25. EcoFactor realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

26. EcoFactor owns by assignment all rights, title, and interest in U.S. Patent No. 8,019,567 (the “’567 Patent”), titled “system and method for evaluating changes in the efficiency of an HVAC system,” issued on September 13, 2011. Ex. 3 (’567 patent). Inventors of the ’567 patent are John Douglas Steinberg and Scott Douglas Hublou. The ’567 patent is based on U.S. Pat. App. No. 12/211,690 filed on September 16, 2008. The ’567 patent claims priority to Provisional App. No. 60/994,011, filed on September 17, 2007. A true and correct copy of the ’567 Patent is attached as Exhibit 3.

27. On information and belief, Defendant makes, uses, offers for sale, sells, and/or imports certain products (“Accused Products”), such as Johnson’s smart thermostats (e.g., TEC3000, T9100/T9180), that directly infringe, literally and/or under the doctrine of equivalents, claims of the ’567 Patent.

28. The infringement of the Asserted Patents is also attributable to Defendant. Defendant and/or users of the Accused Products directs and controls use of the Accused Products to perform acts that result in infringement the Asserted Patents, conditioning benefits on participation in the infringement and establishing the timing and manner of the infringement.

29. Defendant also knowingly and intentionally induces infringement of claims of the ’567 Patent in violation of 35 U.S.C. § 271(b). Through the filing and service of this Complaint, and also through the filing and/or service of a complaint with the United States International Trade

Commission (ITC) pursuant to Section 337 of the Tariff Act of 1930, 19 U.S.C. § 1337, Defendant has had knowledge of the '567 Patent and the infringing nature of the Accused Products. Despite this knowledge of the '567 Patent, Defendant continues to actively encourage and instruct its customers and end users (for example, through user manuals and online instruction materials on its website) to use the Accused Products in ways that directly infringe the '567 Patent. Defendant does so knowing and intending that its customers and end users will commit these infringing acts. Defendant also continues to make, use, offer for sale, sell, and/or import the Accused Products, despite its knowledge of the '567 Patent, thereby specifically intending for and inducing its customers to infringe the '567 Patent through the customers' normal and customary use of the Accused Products.

30. Defendant has also infringed, and continue to infringe, claims of the '567 patent by offering to commercially distribute, commercially distributing, making, and/or importing the Accused Products, which are used in practicing the process, or using the systems, of the patent, and constitute a material part of the invention. Defendant knows the components in the Accused Products to be especially made or especially adapted for use in infringement of the patent, not a staple article, and not a commodity of commerce suitable for substantial noninfringing use. Accordingly, Defendant has been, and currently are, contributorily infringing the '567 patent, in violation of 35 U.S.C. § 271(c).

31. The Accused Products satisfy all claim limitations of claims of the '567 Patent. A claim chart comparing independent claims of the '567 Patent to representative Accused Product, is attached as Exhibit 4.

32. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendant has injured EcoFactor and are liable for infringement of the '567

Patent pursuant to 35 U.S.C. § 271.

33. As a result of Defendant's infringement of the '567 Patent, EcoFactor is entitled to monetary damages in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendant, together with interest and costs as fixed by the Court.

34. Defendant's infringing activities have injured and will continue to injure EcoFactor, unless and until this Court enters an injunction prohibiting further infringement of the '567 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

### **COUNT III**

#### **INFRINGEMENT OF U.S. PATENT NO. 10,612,983**

35. EcoFactor realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

36. EcoFactor owns by assignment all rights, title, and interest in U.S. Patent No. 10,612,983 (the "'983 Patent"), titled "system and method for evaluating changes in the efficiency of an HVAC system," issued on April 7, 2020. Ex. 5 ('983 patent). Inventors of the '983 patent are John Douglas Steinberg and Scott Douglas Hublou. The '983 patent is based on U.S. Pat. App. No. 16/374,083 filed on April 3, 2019. The '983 patent claims priority to Provisional App. No. 60/994,011, filed on September 17, 2007. A true and correct copy of the '983 Patent is attached as Exhibit 5.

37. On information and belief, Defendant makes, uses, offers for sale, sells, and/or imports certain products ("Accused Products"), such as Johnson's smart thermostats (e.g., TEC3000, T9100/T9180), that directly infringe, literally and/or under the doctrine of equivalents,

claims of the '983 Patent.

38. The infringement of the Asserted Patents is also attributable to Defendant. Defendant and/or users of the Accused Products directs and controls use of the Accused Products to perform acts that result in infringement the Asserted Patents, conditioning benefits on participation in the infringement and establishing the timing and manner of the infringement.

39. Defendant also knowingly and intentionally induces infringement of claims of the '983 Patent in violation of 35 U.S.C. § 271(b). Through the filing and service of this Complaint, and also through the filing and/or service of a complaint with the United States International Trade Commission (ITC) pursuant to Section 337 of the Tariff Act of 1930, 19 U.S.C. § 1337, Defendant has had knowledge of the '983 Patent and the infringing nature of the Accused Products. Despite this knowledge of the '983 Patent, Defendant continues to actively encourage and instruct its customers and end users (for example, through user manuals and online instruction materials on its website) to use the Accused Products in ways that directly infringe the '983 Patent. Defendant does so knowing and intending that its customers and end users will commit these infringing acts. Defendant also continues to make, use, offer for sale, sell, and/or import the Accused Products, despite its knowledge of the '983 Patent, thereby specifically intending for and inducing its customers to infringe the '983 Patent through the customers' normal and customary use of the Accused Products.

40. Defendant has also infringed, and continue to infringe, claims of the '983 patent by offering to commercially distribute, commercially distributing, making, and/or importing the Accused Products, which are used in practicing the process, or using the systems, of the patent, and constitute a material part of the invention. Defendant knows the components in the Accused Products to be especially made or especially adapted for use in infringement of the patent, not a

staple article, and not a commodity of commerce suitable for substantial noninfringing use. Accordingly, Defendant has been, and currently are, contributorily infringing the '983 patent, in violation of 35 U.S.C. § 271(c).

41. The Accused Products satisfy all claim limitations of claims of the '983 Patent. A claim chart comparing independent claims of the '983 Patent to representative Accused Products, is attached as Exhibit 6.

42. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendant has injured EcoFactor and are liable for infringement of the '983 Patent pursuant to 35 U.S.C. § 271.

43. As a result of Defendant's infringement of the '983 Patent, EcoFactor is entitled to monetary damages in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendant, together with interest and costs as fixed by the Court.

44. Defendant's infringing activities have injured and will continue to injure EcoFactor, unless and until this Court enters an injunction prohibiting further infringement of the '983 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that come within the scope of the patent claims.

#### **COUNT IV**

#### **INFRINGEMENT OF U.S. PATENT NO. 8,886,488**

45. EcoFactor realleges and incorporates by reference the foregoing paragraphs as if fully set forth herein.

46. EcoFactor owns all right, title, and interest in U.S. Patent No. 8,886,488 (the "'488 patent"), which is titled "system and method for calculating thermal mass of a building," issued

on November 11, 2014. Ex. 7 ('488 patent). Inventors of the '488 patent are John Douglas Steinberg and Scott Douglas Hublou. The '488 patent is based on U.S. Pat. App. No. 13/409,729 filed on March 1, 2012. The '488 patent claims priority to Provisional App. No. 60/994,011, filed on September 17, 2007. A true and correct copy of the '488 Patent is attached as Exhibit 7.

47. On information and belief, Defendant makes, uses, offers for sale, sells, and/or imports certain products ("Accused Products"), such as Johnson's smart thermostats (e.g., TEC3000, T9100/T9180), that directly infringe, literally and/or under the doctrine of equivalents, claims of the '488 Patent.

48. The infringement of the Asserted Patents is also attributable to Defendant. Defendant and/or users of the Accused Products directs and controls use of the Accused Products to perform acts that result in infringement the Asserted Patents, conditioning benefits on participation in the infringement and establishing the timing and manner of the infringement.

49. Defendant also knowingly and intentionally induces infringement of claims of the '488 Patent in violation of 35 U.S.C. § 271(b). Through the filing and service of this Complaint, and also through the filing and/or service of a complaint with the United States International Trade Commission (ITC) pursuant to Section 337 of the Tariff Act of 1930, 19 U.S.C. § 1337, Defendant has had knowledge of the '488 Patent and the infringing nature of the Accused Products. Despite this knowledge of the '488 Patent, Defendant continues to actively encourage and instruct its customers and end users (for example, through user manuals and online instruction materials on its website) to use the Accused Products in ways that directly infringe the '488 Patent. Defendant does so knowing and intending that its customers and end users will commit these infringing acts. Defendant also continues to make, use, offer for sale, sell, and/or import the Accused Products, despite its knowledge of the '488 Patent, thereby specifically intending for and inducing its

customers to infringe the '488 Patent through the customers' normal and customary use of the Accused Product.

50. Defendant has also infringed, and continue to infringe, claims of the '488 patent by offering to commercially distribute, commercially distributing, making, and/or importing the Accused Products, which are used in practicing the process, or using the systems, of the patent, and constitute a material part of the invention. Defendant knows the components in the Accused Products to be especially made or especially adapted for use in infringement of the patent, not a staple article, and not a commodity of commerce suitable for substantial noninfringing use. Accordingly, Defendant has been, and currently are, contributorily infringing the '488 patent, in violation of 35 U.S.C. § 271(c).

51. The Accused Products satisfy all claim limitations of claims of the '488 Patent. A claim chart comparing independent claims of the '488 Patent to representative Accused Products, is attached as Exhibit 8.

52. By making, using, offering for sale, selling and/or importing into the United States the Accused Products, Defendant has injured EcoFactor and are liable for infringement of the '488 Patent pursuant to 35 U.S.C. § 271.

53. As a result of Defendant's infringement of the '488 Patent, EcoFactor is entitled to monetary damages in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty for the use made of the invention by Defendant, together with interest and costs as fixed by the Court.

54. Defendant's infringing activities have injured and will continue to injure EcoFactor, unless and until this Court enters an injunction prohibiting further infringement of the '488 Patent, and, specifically, enjoining further manufacture, use, sale, importation, and/or offers for sale that

come within the scope of the patent claims.

**PRAYER FOR RELIEF**

WHEREFORE, EcoFactor respectfully requests that this Court enter:

a. A judgment in favor of EcoFactor that Defendant has infringed, either literally and/or under the doctrine of equivalents, the '322 Patent, the '567 Patent, the '983 Patent, and the '488 Patent;

b. A permanent injunction prohibiting Defendant from further acts of infringement of the '322 Patent, the '567 Patent, the '983 Patent, and the '488 Patent;

c. A judgment and order requiring Defendant to pay EcoFactor its damages, costs, expenses, and pre-judgment and post-judgment interest for Defendant's infringement of the '322 Patent, the '567 Patent, the '983 Patent, and the '488 Patent;; and

d. A judgment and order requiring Defendant to provide an accounting and to pay supplemental damages to EcoFactor, including without limitation, pre-judgment and post-judgment interest;

e. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to EcoFactor its reasonable attorneys' fees against Defendant; and

f. Any and all other relief as the Court may deem appropriate and just under the circumstances.

**DEMAND FOR JURY TRIAL**

EcoFactor, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of any issues so triable by right.



Dated: March 11, 2021

Respectfully submitted,

/s/ Reza Mirzaie

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